
[JJ] Evening Poster | S (Solid Earth Sciences) | S-VC Volcanology

[S-VC41]Active Volcanism

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Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

This session discusses various aspects of active volcanisms including, but not limited to, recent and historical eruptions, various phenomena associated with the volcanic activities, underground structures of the volcanoes, and developments of new instruments based on geophysical, geochemical, geological, and multidiscipline approaches. We also welcome studies on understanding and predicting the transitions of the eruptive activities from observational, theoretical, and experimental approaches.

[SVC41-P40]Deformation of Iwo-yama, Kirishima volcanoes measured by GNSS campaign observation (Aug. - Dec., 2017)

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Keywords:Iwoyama, GNSS observation

At Iwo-yama that active volcano located in Ebino kogen volcanic area of Kirishima Volcanoes, fumarolic activity has risen again from December 2015 after dozen year's silence and Suddenly increasing of seismicity (50 times and more a day) and volcanic tremors was observed several times. Morita(Kyushu University master's thesis, 2018) inferred inflation spherical pressure source as Mogi source from leveling survey between June 2015 and December 2015. The source's depth is about 700m beneath Iwo-yama and the source was considered that correspond with bottom of conductive layer inferred clay layer from MT survey (Tsukamoto, Kyushu University master's thesis 2018). But, leveling can detect vertical displacement only and the inferred source is not considered horizontal displacement. So, we will improve pressure source inferred from leveling using detect horizontal displacement from GNSS observation in this study.

As preliminary observation, we conducted GNSS campaign observation to detect deformation of iwo-yama from August 2017 to December 2017. We installed 12 observation points in June 2017 and measured three times in August (4 points), November (11 points), December (12 points), 2017 at Iwo-yama. We used GNSS analysis software RTNet to analyze obtained data. Determined coordinated value's dispersion is 1.0 cm in horizontal component and 3.0 cm vertical component. But deformation of Iwo-yama between November 2 and December 24 is several millimeters; we could not detect significant deformation at any observation points during these periods.

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